

APPENDIX D

ADMINISTRATIVE ACTIONS BY RESOURCE

AIR QUALITY

Regardless of the alternative selected, the Bureau of Land Management (BLM) may conduct the following administrative actions for air quality management:

- Work with local businesses that have non-major permits within 6 miles (10 kilometers) of the Ironwood Forest National Monument (IFNM) to establish an understanding of the potential impacts their operations may have on the monument.
- Attend work group meetings pertaining to new or revised regulations that will impact the IFNM, with fugitive-dust regulations being a priority, and provide comments as necessary and appropriate.
- Establish interpretive displays in recreationally used portions of the monument with themes based on the importance of improving or maintaining the existing visibility and air quality conditions in the monument.
- Promote the study of air quality conditions at the monument, including the effects of ozone, acid deposition, and other related pollutants on plants and the supporting ecosystems, with academic institutions and other interested parties.
- Enlist volunteers and partners to assist with environmental education and public awareness campaigns related to air quality.
- Work with permitting authorities to ensure that the IFNM is treated as a pseudo “affected state” for the purposes of major-source air quality permitting for facilities within 100 kilometers of the IFNM. This would allow BLM to review applications for major source permits, in conjunction with the permitting agency, to determine the potential air quality impacts a proposed major source could have on the IFNM.
- Work with permitting authorities to ensure BLM has an opportunity to review non-major-source permits within 6 miles (10 kilometers) of the IFNM to determine their effects on air quality and monument resources.
- Work with Federal, State, and local agencies to install air quality and/or meteorological monitors in the IFNM. Recommended air quality monitors include those that measure visibility, particulate matter, ozone, and acid deposition. Use the data collected to identify air quality trends that could impact the IFNM.
- Keep informed of the compliance status of minor and major sources near the IFNM, and inform the applicable permitting agency of potential violations if necessary.
- Coordinate with adjoining land managers and county or municipal authorities for specific measures to mitigate air quality effects on the IFNM (e.g., controlling fugitive-dust emissions from unpaved roads, construction sites, or other activities within the vicinity of the IFNM).
- Include stipulations for controlling dust in right-of-way grants.

GEOLOGY AND CAVE RESOURCES

Regardless of the alternative selected, BLM may conduct the following administrative actions related to geologic resources, including caves:

- Interpret unique geologic features for their scientific and educational value and for protection of those features.
- Establish liaison with local and regional scientific and academic communities to promote opportunities to study the unique geologic features found in the monument.
- Provide administrative and logistical support for detailed scientific studies of unique geologic features in the monument.
- Identify and inventory unique geologic features, assess potential impact from human visits, and evaluate impact from uses of other resources.
- Conduct field surveys for cave locations on IFNM lands prior to any ground-disturbing activities, and to develop an inventory of cave locations within the monument.
- Conduct surveys where, based on geology, caves may occur. If a cave is located, evaluate the discovery for cultural, scientific, biological, geological, hydrological, educational, and recreational values and management related to primary cave values.
- Establish a database for the inventory of caves on the monument, including information to assess the quality of the caves. This may include locations that should remain confidential (adequate protection must be developed for these data entries) until a time, as determined by the BLM Director, from advisement of resource staff that the cave has been evaluated and methods of protection from human entry established, if suitable.
- Establish memorandums of understanding (MOUs) for cooperative agreements with appropriate scientific organizations, caving groups, and other Federal and State agencies to allow for discovery and inventory of cave locations, and assessment of cave condition.
- Establish criteria to assess the quality of the cave, including cultural, geological, biological, hydrological, educational, and recreational values.

SOIL AND WATER RESOURCES

Regardless of the alternative selected, BLM may conduct the following administrative actions:

- Work with appropriate State authorities to ensure that any water resources needed for monument purposes are available.
- Address erosion, and consider soil types and measurable factors that compare conditions to Rangeland Health Standards when making land management decisions.
- Use best management practices (BMPs) for road maintenance and other allowed and authorized surface disturbances to limit soil loss and erosion.
- Determine the current existence, location, and condition of desert pavement and biological soil crusts.
- Identify and evaluate sensitive areas that may require special management to prevent soil loss, soil destruction, and excessive erosion.
- Work with the U.S. Geological Survey (USGS) and Arizona Department of Environmental Quality (ADEQ) to identify the groundwater and surface water quality parameters most likely to be impacted by the current and forecast public land uses in the monument.
- Identify locations where groundwater and surface water can be sampled for analysis under the ADEQ ambient monitoring program.

- Develop an MOU, or an amendment of the existing State non-point-source monitoring program MOU, to support ADEQ monitoring of groundwater and surface water at selected locations in the monument.
- Identify locations within the monument where groundwater levels can be monitored. Begin to develop cooperative agreements with the USGS to compare and analyze groundwater data on the public land.
- Develop a water quantity database to assess the current and forecast water needs of the monument and to evaluate impairments to public land water resources from other water users.
- Identify, quantify, and secure legal entitlement for existing and future water sources on public lands within the monument by acquiring surface water rights/well permits, when possible, to ensure water availability to meet the purposes of the monument.
- Ensure that land management practices and policies protect the water supply by exercising existing land management authorities under the National Environmental Policy Act (NEPA) to protect and maintain all available water and natural flows in the monument.
- Determine BLM interests and needs for a surface and groundwater protection agreement with the State of Arizona.
- Begin a dialog with appropriate State of Arizona policy, legal, and water resources staff on the development of a cooperative agreement on the protection of water resources within the monument. Conclude this process with a formal agreement between the State and BLM that supports the objectives and preserves the resources listed in the IFNM enabling proclamation.
- Develop, with range conservation staff, a data collection protocol for specific watershed metrics that can be routinely collected during watershed health assessments.
- Develop and maintain an electronic database of watershed health metrics that is useful for rapidly identifying trends and prescribing management corrections when problems are apparent.
- Increase public awareness and appreciation of water resources and healthy watersheds through interpretive displays as part of the public outreach program and visitor facilities planning for the monument.
- Work with ADEQ to apply the non-point-source pollution MOU within the guidance for public land health (both grazed and ungrazed). Use this cooperative approach to evaluate water quality impacts to impaired waters of the United States (303d List) and pollutant load reductions to any future listed streams. Use rangeland health BMPs, as suggested in the Arizona Standards and Guidelines and any new land health guidance developed by BLM.
- Track data from the existing state water quality database that could indicate impairment to resources of the planning area.
- Review regional water level data on an annual basis to determine if a monitoring program is needed.
- Review Pima County Flood Control District surface-water monitoring stations and suggest a new site close to the planning area.
- Develop a historical database of water quality data from the planning area and adjacent regions.
- Develop a database from watershed assessments information. Maintain with data as problems are addressed.

- Work with existing research programs to identify and map desert pavement and biological soil crusts, and develop a conservation strategy for these areas.
- Develop and require implementation of BMPs for road maintenance and other allowed and/or authorized surface disturbances to limit soil loss from erosion and minimize impacts on natural water flow patterns.

VEGETATION

Regardless of the alternative selected, BLM may conduct the following administrative actions related to vegetation:

- Monitor the Ragged Top vegetation assemblage and Nichol Turk's head cactus population within the IFNM.
- Monitor vegetation and progress toward achieving desired outcomes with an emphasis on invasive species and noxious weed treatment areas and reclaimed and restored areas.
- Identify and monitor areas of invasion by nonnative, invasive species and noxious weeds.
- Support and/or implement public education programs addressing management of invasive species and noxious weeds by developing a volunteer or docent program to control these species and interpret related issues to visitors, providing literature on nonnative, invasive species and noxious weed issues to visitors, and constructing permanent graphics at selected points along the roadways of the monument.
- Monitor the effects of fire suppression activities on the spread of nonnative species.
- Develop monitoring plans for establishing sample plots within each of the unique or important vegetation associations. The monitoring plan will identify key areas within each community where monitoring would be conducted. Permanent photo points will be established for long-term monitoring.
- Collect monitoring information on one-half of the sample plots within vegetation associations or key areas every year, ensuring that all vegetation associations or key areas are monitored every 2 years.
- Implement a long-term monitoring program that includes rainfall and temperature gauges, permanent photo points, plant plots, mammal trapping transects, bird call points, and wildlife/plant community surveys (emphasis on herpetofauna).
- Give priority treatment to priority species and habitats when potentially incompatible uses or actions are entertained; aim at totally offsetting or avoiding impacts to the priority species or habitats.

WILDLIFE AND WILDLIFE HABITAT

Regardless of the alternative selected, BLM may conduct the following administrative actions related to wildlife and wildlife habitat:

- Develop, implement, and update wildlife habitat management through the use of wildlife habitat management plans, developed in cooperation with Arizona Game and Fish Department (AGFD).
- Coordinate with AGFD for species-specific management to achieve desired outcomes (e.g., coordinate during development of any habitat management plans).

- Coordinate with AGFD to conduct population monitoring and movement studies on bighorn sheep, javelina, and mule deer.
- Identify and describe disturbed and degraded areas throughout the monument, and describe their potential for restoration.
- Support research by qualified biologists from other agencies, and academic and private groups.
- Coordinate with outside entities to identify and protect wildlife corridors that extend beyond the boundaries of the monument.
- Compile observation data on roadkills from monument employees, visitors, residents, and other volunteers.
- Support and/or implement public education program(s) addressing management of wildlife and wildlife habitat.
- Develop and implement a cooperative program with agency, academic, and private groups to assist with research and monitoring of wildlife habitats.
- Conduct extensive literature review of past and present studies (wildlife movements), and compile in a summary format, updating, as appropriate.
- Conduct movement studies on bighorn sheep, javelina, and mule deer in cooperation and coordination with AGFD.
- Give priority treatment to priority species and habitats when potentially incompatible uses or actions are entertained; aim at totally offsetting or avoiding impacts to the priority species or habitats.
- Mitigate for wildlife habitat degradation, loss, and fragmentation if and when such effects are unavoidable.

SPECIAL STATUS SPECIES

Regardless of the alternative selected, BLM may conduct the following administrative actions related to special status species:

- For the Nichol Turk's head cactus, coordinate with U.S. Fish and Wildlife Service (USFWS) and the State of Arizona to enforce existing regulations under the Endangered Species Act (ESA), Convention on International Trade in Endangered Species of Wild Fauna and Flora, Lacey Act, and Arizona Native Plant Law.
- Continue to actively participate in regional planning efforts, such as Pima County's Sonoran Desert Conservation Plan and the Town of Marana's Habitat Conservation Plan, and other conservation efforts.
- Monitor the effectiveness of conservation measures associated with issuance of BLM authorizations, including rights-of-way, easements, and special use permits.
- Actively participate in the recovery of, and any revision of the recovery plan for, listed plant species on BLM lands.
- Monitor the effects of fire suppression activities on all populations of listed plants.
- Fund, aid, or establish research or study projects regarding fire ecology and conservation listed plant species on BLM lands.
- Educate employees and public users about listed plant species.

- Support and/or implement public education programs addressing management of special status species by developing a volunteer or docent program to interpret information on such species to visitors, providing literature on special status species issues to visitors, and constructing permanent graphics at selected points along the roadways of the monument.
- Support research by qualified biologists from other agencies, universities, or private organizations.
- Develop increased awareness of tortoises on the public lands.
- Develop and maintain effective coordination and cooperation with outside agencies and BLM constituents concerning tortoise population and habitat management.
- Provide training by BLM and cooperators on data gathering according to protocols and methods.
- Refine data on distribution and densities of Nichol Turk's head cactus in or near the habitat management plan area.
- Continue to assist USFWS and other organizations to gather biological data and meet objectives and goals of species recovery plans.
- Monitor populations of Nichol Turk's head cactus occurring on BLM land for at least 10 years.
- Develop a resource monitoring and evaluation plan for special status species to evaluate population stability and habitat condition in habitat area-wide annually using field surveys and site inspection of habitat.
- Implement a monitoring program for federally listed species, Arizona Wildlife of Special Concern, and BLM Sensitive Species.
- Continue support of conservation efforts (including monitoring) of species occurring within the monument and designated by other agencies (Pima County, Arizona Department of Agriculture) as rare, sensitive, protected, vulnerable, or other special status, and consider each for addition to the BLM Sensitive Species list.
- Evaluate species for addition to BLM Sensitive Species list every fourth year beginning in the fourth year after the completion of the baseline inventory.

FIRE ECOLOGY AND MANAGEMENT

Regardless of the alternative selected, BLM may conduct the following administrative action related to fire management:

- Undertake education, enforcement, and administrative fire prevention mitigation measures.

CULTURAL RESOURCES

Regardless of the alternative selected, BLM may conduct the following administrative actions related to cultural resources:

- Continue to participate in Arizona Archaeology Awareness Month events and other educational outreach, to highlight the values of cultural resources and the need to protect these resources.
- Promote use of volunteers to enhance cultural resource values, including site documentation, research, protection, and educational projects.
- Promote and increase patrol and monitoring of sites by site stewards, BLM staff, cooperating organizations, and agencies, to the extent possible and practicable.

- Plan and conduct future inventories, focusing efforts in areas important for understanding the cultural history of the monument or where significant resources could be degraded by uses of the monument or erosion.
- Provide pamphlets and brochures containing information about sites allocated to public use.
- Consider management practices to achieve desired plant communities protection and conservation of known cultural resources, including historical sites, and prehistoric sites and plants of significance to Native American peoples.
- Coordinate with tribal groups and other interested groups to inventory any traditional cultural resources.
- Continue the program of monitoring archaeological and historical sites, and implement adaptive management responses to identified threats, including but not limited to, signing, fencing, trash removal, road closures, erosion control measures, backfilling, stabilization, restrictions on other land uses, and law enforcement if warranted.
- Provide educational and interpretive opportunities to enhance public understanding and appreciation of the cultures that created the archaeological and historical resources within the monument (discretionary). Topics could include (1) prehistoric adaptations to the Sonoran Desert, (2) Tohono O’odham interactions with past, present, and future landscapes, and (3) historic mining and ranching.
- Provide opportunities for the public to actively participate in volunteer programs that protect, preserve, conserve, and interpret cultural resources on the monument.
- Promote public interpretation of selected cultural resources (those allocated to public use) in partnership with other organizations pursuing heritage tourism.
- Promote cultural resource research through partnerships and cooperative programs.
- Develop cultural resource project plans for special status resources. These could include (1) portions of Los Robles Archaeological District within IFNM, (2) Cocoraque Butte Archaeological District, and (3) Santa Ana de Cuiciburitac Mission Site (discretionary).
- Coordinate with the agencies, tribes, and private landowners that manage cultural resources on adjacent lands.
- Manage access and transportation to support cultural resource management goals, objectives, and activities to protect resources.
- Identify and evaluate opportunities to acquire non-Federal lands with significant cultural resources in the planning area. Potential acquisitions could include lands within the Los Robles Archaeological District (discretionary).
- Complete Class II (sample) and Class III (intensive) field inventories to identify cultural resources and evaluate the condition of sites, in accordance with the National Historic Preservation Act. Priorities for inventory will be determined based on resource use and protection priority areas and sites.
- Develop a monitoring scheme to evaluate the condition of cultural resources. Where adverse effects are occurring, implement protection measures to stop, limit, or repair damage to sites.

PALEONTOLOGICAL RESOURCES

Regardless of the alternative selected, BLM may conduct the following administrative actions related to paleontological resources:

- Establish Memoranda of Understanding for Cooperative Agreements with a museum(s), university(ies), or other appropriate scientific organizations to allow for evaluation, collection, mitigation, curation, and protection of paleontological resources discovered on the monument and surrounding BLM lands.
- Evaluate paleontological resources, as they are discovered, considering their scientific, educational and recreational values. Adjust the appropriate paleontological sensitivity class and determine appropriate management and monitoring.
- Develop, maintain, and/or contribute information to a database for known and discovered paleontological sites within the monument and BLM administered lands.

SCENIC AND VISUAL RESOURCES

Regardless of the alternative selected, BLM may conduct the following administrative actions related to scenic and visual resources:

- Coordinate with adjacent jurisdictions and planning authorities to manage visual resources consistently on lands adjacent to the monument lands.
- Conduct visual resource contrast ratings in accordance with Bureau VRM Handbook H-8321 for all projects. Require measures to mitigate visual impact exceeding VRM Class tolerances.

ENERGY AND MINERAL RESOURCES

Regardless of the alternative selected, BLM may conduct the following administrative actions related to energy and mineral resources:

- Consider use of mineral materials from existing mineral sites and other identified areas on BLM lands for administrative purposes only, and for use only within the monument, provided the use would be consistent with plan objectives and protection of monument objects.

LIVESTOCK GRAZING

Regardless of the alternative selected, BLM may conduct the following administrative actions related to livestock grazing:

- Remedy non-compliance with Standards and/or allotment plans in accordance with existing policy.
- Enforce against trespass grazing.
- Inventory and monitoring data will be collected on a regular basis as needed to determine achievement of Land Health Standards, or progress toward achieving standards.
- Include information on the role of ranching in interpretive materials generated for the monument.
- Evaluate existing exclosures, and as needed, establish new livestock/wildlife and livestock-only exclosures in each vegetation association in each allotment found within the Monument.
- Integrate into existing educational materials information explaining cultural, economic, and ecological role and impacts of ranching and proper grazing management.

- Form a team of land and resource management agencies, and BLM staff to develop a monitoring plan based on best available methodologies.
- Coordinate with AGFD, USFWS, SHPO, and others to remove range improvements if they are not necessary for management or conservation of other resources (e.g., cultural and wildlife resources, recreation, etc.). If removed, the owner shall be compensated at fair market value. Land Health Assessments, evaluations and re-evaluations will be tied to lease renewal schedules.
- Range improvement standards and design will meet specifications in BLM Manual 1740 or be designed to provide the maximum benefit and minimum adverse impact to wildlife and special status species.
- The extent, location and timing of range improvements will be based on allotment-specific management objectives adopted through the evaluation process, interdisciplinary development and analysis of proposed actions, and funding.
- BLM will consult with Arizona Game and Fish Department on the design and location of new fences.
- Existing fences that create wildlife movement problems would be modified.
- Stock pond sites would be selected based on available watershed and hydrologic information. All applicable state laws and regulations would be followed.
- Well sites would be selected based on geologic reports that predict the depth to reliable aquifers. All applicable state laws and regulations that apply to ground water would be observed.

RECREATION

Regardless of the alternative selected, BLM may conduct the following administrative actions related to recreation management:

- Manage for camping activities in accordance with the following regulations (1) prohibit camping within ¼ mile of wildlife waters as required by State law, (2) maintain the 14-day camping limit on dispersed camping within a 25-mile radius of one location on public lands, (3) allow camping on all lands open to public in accordance with standard operating procedures, (4) ensure compliance with 43 CFR §8360, Visitor Services, and §8365, Rules of Conduct for the protection of public lands and resources, and for the protection, comfort and well-being of the public in its use of recreation areas, sites and facilities on public lands, (5) ensure that recreation services, programs, and facilities are Americans with Disabilities Act compliant except where substantial harm to the cultural or natural features might occur or they might be compromised; compliance would alter the nature of the setting; or where compliance would not be feasible due to terrain or prevailing construction practices, and (6) close areas to camping per 43 CFR §8364.1.
- Manage for the use and discharge of firearms in accordance with applicable Arizona Game and Commission Rules 17-301, 309, 312, and 12-4-303 (relating to hunting), and in accordance with 43 CFR §8364.1 relating to order issuance for land closures to protect persons, property, public lands and resources.
- Visitor center establishment is in accordance with 43 CFR §8360, Visitor Services, and §8365, Rules of Conduct for the protection of public lands and resources, and for the protection, comfort and well-being of the public in its use of recreation areas, sites and facilities on public lands.

- Management of sight seeing, driving for pleasure, vehicle touring, and OHV recreation are in accordance with the existing route network and BLM's National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands.
- Manage non-motorized, mechanized recreational activities according to the BLM's National Mountain Biking Strategic Action Plan.
- Use limits of acceptable change monitoring and adaptive management methods to minimize potential impacts to sensitive natural and cultural resources.
- Develop a multi-faceted adaptive management process.
- Identify standards for achieving and maintaining the desired recreational resource settings, social settings, managerial conditions, accessibility, visitor services and facilities.
- Promote public safety by taking physical management actions where practicable and by providing the public with adequate information regarding potential risks.
- Manage special recreation use permits to accommodate a variety of recreation opportunities.
- Manage commercial/group vehicle touring opportunities in accordance with special recreation use permits (SRPs).
- Manage SRPs in accordance with 43 CFR §2930 Special Recreation Permits requirements for: (1) commercial, (2) competitive, (3) vending, (4) individual or group use in special areas, and (5) organized group activity and event use, and on a case-by-case basis, and to achieve recreation management objectives.
- Limit issuance of SRPs based on the potential for resource damage and conflicts with other uses.
- Provide maintenance and minimal improvement to prevent resource damage at large group campsites.
- Ensure recreation tours remain on existing routes that currently provide vehicle access into the transportation system.
- Coordinate with the BLM State Office for managing emerging recreation issues.
- Enlist volunteers to assist in monitoring, maintenance and education, thereby potentially lessening recreation use conflicts.

Under Alternatives B, C, or D, BLM may conduct the following administrative actions related to recreation:

- Provide minimal improvements and maintenance to accommodate allowable uses in accordance with RMZ objectives.
- Establish restrictions pursuant 43 CFR 8340 and 8366, as appropriate, to limit motorized vehicle use, non-motorized use, non-motorized mechanized use to designated routes, and limit recreation use to designated sites in accordance with RMZ objectives and prescriptions.
- Install regulatory, informational, identification, and interpretive signing as needed.
- Install visitor and traffic control devices.
- Provide regular or periodic visitor contact and law enforcement patrols, with frequency depending on RMZ and or time of year.
- Provide litter and trash clean up as needed.

- Coordinate recreation management with the ASLD and other adjacent land owners.
- Establish or develop partnerships or local volunteer resources to assist in implementing monitoring, maintenance and improvement projects to achieve recreation management objectives.

TRAVEL MANAGEMENT

Regardless of the alternative selected, BLM may conduct the following administrative actions related to travel management:

- Take corrective action to remedy significant safety hazards along the designated transportation system routes.
- Enlist volunteers and partners to assist in fieldwork and other stewardship functions, such as monitoring and maintaining routes.
- Maintain an ongoing monitoring system and database to track and measure motorized and non-motorized use and prescribe route maintenance.
- Provide signing, mapping, and travel information to visitors that reinforces protection of monument resources.
- Expand and pursue partnerships for sources of funding for travel and transportation management.
- Enforce route designation restrictions for all users, including permittees (e.g., hunters, wood gatherers, livestock operators) and authorize exceptions for motorized vehicle travel on a case-by-case basis.
- Allow AGFD the use of motorized and mechanized equipment off designated routes in suitable locations (as agreed to by AGFD and BLM) for such purposes including, but not limited to the following: law enforcement activities, wildlife water supplementation, collar retrieval, capture and release of wildlife, telemetry, surveys, habitat evaluation, and research activities.
- Establish supplementary rules pursuant to 43 CFR 8340 and 43 CFR 8365 as needed to implement OHV area and travel route designations.
- Motorized administrative use is permitted on non-motorized routes subject to physical condition of the route, and on a case-by-case basis.